

S E C R E T15th May, 1959.COCOM Document No. 3517BCOORDINATING COMMITTEERECORD OF DISCUSSIONSONTHE INTERPRETATION OF ITEMS 1526 - COMMUNICATION CABLEAND 4481 - RAILWAY SIGNALLING APPARATUS6th, 11th and 14th May, 1959

Present: Belgium(Luxembourg), Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Turkey, United Kingdom, United States.

References: 3436 and Addendum, 3444, 3450, 3451, 3452, 3464, 3470, 3472, 3473, 3474, 3475, 3483, 3487, 3415.26/1, 2 and 3, 3489, 3492, 3500.

1. The CHAIRMAN reminded the Committee that they had agreed (COCOM Doc. No. 3415.26/3) to resume discussion on the interpretation of Items 1526 and 4481 at the present meeting. He asked the French Delegate if he wished to make a statement.

2. The FRENCH Delegate stated that as a result of an exhaustive study of the arguments supplied both in the Committee and during the discussions between experts, the French Government **believed** that the question should now be considered from three aspects:

I. Railway point of view.

It should be borne in mind in the first place that the cable concerned was manufactured to meet the needs of an electrified railway. Before speculating as to the means of using it for quite different purposes, it was necessary to verify whether it was **indeed suitable** for these needs or if, on the contrary, it was clearly far removed therefrom. The discussions which had just been held had demonstrated that the Trans-Siberian was not a line on which traffic was light. On this point the Delegations principally interested had received identical information, to the effect that at present eighty trains were running in each direction every day. This traffic was made up almost entirely of heavy goods trains. According to the new U.S.S.R. 7-year Plan, this traffic was to be increased to about 150 trains per day. This constituted intense traffic corresponding to one of the busiest now being operated in France and in the neighbouring countries on a two-way line. On the other hand, and contrary to what might be supposed, the circulation of heavy and comparatively slow trains tended, in the view of railway experts, to complicate signalling problems. Lastly, the extremely rigorous climate of Siberia made these problems more difficult to resolve. It could be conceded that in this field of railway signalling the Soviets had not necessarily the same conceptions as obtained in France. But, in all countries, circuits requirements, whether for signalling or for railway service communications, depended upon the number and the load of the trains in daily circulation and of the speedy turn-round of coaches which it was essential to ensure. It had already been demonstrated that in the majority of Western countries the railway systems made use of cables which were much larger than the cable ordered by the U.S.S.R. The Delegations to the Coordinating Committee had been able to confirm for themselves that on the Dôle-Vallorbe section of the international line from Dijon to Lausanne, on which traffic was light (about 30 trains daily) and the coach turn-round also light, the needs of the S.N.C.F. were met:

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- (a) By a special signalling cable with 10 quads, of which the central quad was reserved for the CTC system and for feeding the equipment, and of which the 9 other quads were being used at present for 16 circuits;
- (b) By an annexed communication cable with 17 quads, at present utilised by 32 voice channels;

This gave a total of 27 quads, whereas the cable ordered by the Soviets comprised only 15.

It should be noted that, by reason of the numerous cuts necessary over the run, each signalling quad could provide no more than 3 circuits. The 16 signalling circuits thus used at least 6 quads, and it was necessary in addition to have one or two quads in reserve, plus the central CTC quad. The same remark applied, moreover, to a certain number of the 32 circuits using the communication cable. Lastly, on busy lines such as that from Paris to Lyon, the exploitation needs of the S.N.C.F. were such that this undertaking was now having cables laid which could provide up to 450 voice channels of 4 Kc/s. It could thus be asserted:

(1) That if the S.N.C.F. had to exploit a line having the same traffic characteristics as the Trans-Siberian, they would use from now on, in its entirety, a cable having a capacity at least equal to that of the cables ordered by the Russians.

(2) That if the same undertaking had at this to equip a line whose anticipated traffic would be that of the Trans-Siberian, they would lay throughout the length of this line a cable having a total capacity much greater than that of the Russian cable.

Even if it were conceded that Soviet procedure might be very different from that of the S.N.C.F., the cable concerned thus seemed to be in no way excessive for the sole needs of the Transsiberian.

II. Communications point of view.

This was, as a matter of fact, the point of view which had been debated up to the present, the United States Delegation having practically confined themselves to this question, in suggesting uses completely foreign to railway considerations. It was therefore necessary to specify the circumstances in which the discussions between experts had taken place and the assumptions upon which they had been based. On the 27th April, the general discussion on the technical, economic and political problems had produced no result, each Delegation having maintained its position. Because of the presence of eminent communications experts who had come over especially from the United States, the French experts had agreed, at the request of the United States Delegation and in order to simplify and speed up the technical discussion, that it should be solely on the basis of the specification for the cable that a study should be made of the transmission possibilities which this cable might afford in itself, independently of the use for which it had been designed, and apart from any consideration of a strategic, economic or other nature which might militate against such transmissions. Even simplified and limited in this manner, the discussion had been long and difficult. Whereas the French experts intended to confine themselves to the rules of the CCITT, which were universally accepted even by the Eastern countries, the United States Delegation had studied everything that it might be possible to obtain from the cable even by disobeying the rules. But in the opinion of the United States experts themselves, everything was technically possible on any base whatever and the possibilities were limited chiefly by the installation employed; from this point of view it was indeed possible to effect such transmissions on overhead wires or power lines, which were not subject to embargo. On the other hand, the United States Delegation having stated in the experts' report (Annex A to the present document) that the cable could be laid double, the French Delegation

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had pointed out that within the framework of the working hypothesis, this phrase had little meaning in view of the fact that it was always materially possible to lay a cable double, triple or even quadruple. The reply had been made that this point only constituted a basis for discussion. The experts' report of the 27th April should therefore be interpreted on that basis, the examination having begun by a study of the possibilities of the cable when laid double, away from any outside electrical influence, and having ended by a study of the restrictions imposed on these possibilities by the neighbourhood of the electrified line. In these circumstances, if the cable were laid single along the railway line, the limitation of range referred to on page 127 of the CCITT document* came into the picture; moreover, even if the cable were laid double, the problems of protecting personnel and material limited the possibilities of use for carrier-frequency purposes of the low-frequency quads, and in particular the transient disturbances due to the starting of trains limited the possible speed of transmission of the data, which in practice prevented the use of the cable for early warning purposes. Furthermore, some of the technical characteristics of the cable led one to think that the Russians were not considering using it for communications over a very long distance, as the United States Delegation feared - in particular, the fact that they had asked for conductors of 9/10 mm and 105/100 mm instead of 12/10 mm or even 15/10 mm, which would have helped to lessen the attenuation of the signals over the sections and to increase the distance between amplifiers; the existence of special wires and the fact that only 4 cable pitches were used also limited the transmission possibilities. In order to ensure satisfactory long-distance communications, it would thus have been to the Russian interest, instead of laying this cable double, to lay a true communications cable at the same time. They appeared moreover to have contemplated this, since some of their consultations had in fact concerned homogeneous communications cables, but as these were beyond all doubt covered by Item 1526 the relevant export applications had not been approved.

III. . Strategic Problem.

It had been pointed out by the representatives of the Ministry of National Defence that for Western European warning systems, NATO did not allow the use of such railway cables, even in an emergency. The reason appeared to be that the transmission of the relevant data required the use of equipment of the teletype kind, working at high speeds in the region of 1500 bauds, whereas the normal telegraphic speed is only 50 bauds. But, high-speed signals being in danger of disturbance by transient phenomena due to the sudden intensification of current when trains started, the transmission of data might be utterly distorted. For these warning systems NATO did not even allow the use of cables specially designed for communications, but not coaxial and without inner screens between quads, when these cables were laid single along roads. NATO therefore insisted upon the use, for their warning systems, of circuits fulfilling all the conditions of the CCITT and those of the universal service, which was not the case for the cable in question. Lastly, it appeared obvious that this cable, even if laid double, would be extremely inadequate for the needs of defence against guided missiles, as this called for an extensive network of coaxial cables and for Hertzian beams, whereas attack on the territory serviced would be practically impossible by any means other than such missiles. Furthermore, as the United States Delegation had recognised, the manufacture of this cable did not require any special technical know-how which the Soviet Union did not possess or any raw material which they could not obtain. The machinery needed for the manufacture of such cable did not appear on the list of strategic products, and it had been pointed out that the U.S.S.R. had ordered from one of the participating countries three special presses intended for this manufacture.

3. The Delegate stated that, on the basis of the considerations which he had just set out, the French Government remained convinced that the railway signalling cable ordered from France by the U.S.S.R. did indeed form part of a railway signalling system covered by Item 4481 and, in consequence, they maintained the export authorisation already granted to the company concerned. Nevertheless, in order to restore to the Committee the unanimity which had been compromised by the differences in the interpretation of Items 1526 and 4481, the French Government would issue no new licences concerning similar cable until a new and more exact definition of these Items had been accepted unani-

nimously by the Committee. The French Delegation wished to remind the Committee that the licence had been issued in February after consultations with the most highly qualified experts of the Ministries of Industry and National Defence and of the S.N.C.F., with whom the experts assisting the Delegations to the Coordinating Committee had been enabled to have long discussions during their stay in France and in particular during the journey to Dôle-Vallorbe. The French Government had no doubt that the Governments of the Powers represented in the Committee who had expressed the view that the cable concerned was covered by Item 1526 would conform to this attitude and would not agree, any more than would the French Government, to issue licences for such cables in future, at least not before the Committee had given unanimous approval to a more exact definition.

4. The UNITED STATES Delegate stated that he regretted very much indeed that the statement by his French colleague had not reflected the objectivity which had reigned throughout the technical exchanges between experts which had taken place since the Committee's last meeting. The Delegate stated that during these technical exchanges the experts, by common accord, had left out of their considerations the uses to which the cable might possibly be put, and had only taken into consideration its intrinsic possibilities. The United States experts had concluded:

- (a) that the cable could be laid double, and this was an important point, to permit an increase in the cable's capacity and to reduce the technical difficulties encountered for long-distance communications. It would seem that the French experts had not envisaged this possibility at the outset of their study, but this was a logical assumption, since double laying was a normal practice throughout the world, and the Russians for their part had had recourse to it between Moscow and Novosibirsk;
- (b) that the cable presented a high communications capacity, the major part of which could be used for communications at an unlimited distance;
- (c) that the cable equipping the very complex system of the Dôle-Vallorbe line provided less than a quarter of the number of circuits provided by the cable concerned.

The United States experts therefore considered that this was a long-distance cable of high capacity having multiple uses and that beyond any possible doubt it was covered by the embargo list.

5. Turning to the strategic aspect of the matter, the Delegate stated that it seemed superfluous to point out once again that in the opinion of 14 participating countries this cable was covered by Item 1526 as its characteristics were higher than those referred to in that Item, or to dwell on the strategic value of communications cables: that question had been debated at sufficient length during the last review. It was necessary, however, to stress that the cable which France was proposing to export would permit the prolongation eastwards of the double cable at present in existence between Moscow and Novosibirsk. Beyond that town, there existed at present a line of overhead wires permitting military communications with headquarters situated in the eastern regions. There also existed radio circuits to the Soviet Far East, but these were vulnerable to jamming and to natural disturbances and did not ensure secrecy. The fact of replacing the overhead wires by a cable would constitute a considerable increase in the communications capacity and a noticeable improvement in the quality of communications to the Far East. In this connexion it should be pointed out that in Central Siberia the Russians had installed new industries having the highest strategic significance in the fields of atomic energy, aviation and electronics. For this reason the Soviet Union had to extend their warning system in this region as rapidly as possible while at the same time modernising their railways and other military communications systems. This need to build up a warning system explained to a great extent the capacity of the cable ordered by the Russians and the

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urgent efforts they were making in that domain. The laying of an embargo on cables had enabled the Free World to gain precious time and, although not claiming that the Soviets were incapable of producing the cable ordered from the Western countries, the United States Delegation emphasized that the U.S.S.R. were meeting with great difficulties in developing their production at a rhythm adequate to meet their ever-growing needs. The maintenance of the embargo on communications cable was an integral part of the Western effort to limit the Soviet Union's achievements in defensive and offensive fields.

6. The Delegate then pointed out that the mere fact that the cables concerned were subject to embargo by virtue of the revised Lists, and that all Member Governments were bound by the agreement they had accepted, should suffice to persuade the French Government to cancel the export authorisation and thus eliminate the critical problem now facing the Committee. The export contemplated by France would constitute a grave infraction of the Coordinating Committee's fundamental principles and might have the most serious effects on the whole control system; in any event it would give the Russians the satisfaction of having been able to pierce the Allied front on this matter. The Delegate finally noted the French Delegate's statement of intention by which the French Government undertook not to carry out fresh exports of this cable and stated that, while this guarantee was appreciated, it did not fully meet the desires of the United States, who would have preferred and continued to hope for a pure and simple cancellation of the authorisation already granted. Emphasising that an opportunity unique in the Committee's history was being offered to a Member Government to make a gesture which would compel the admiration of their colleagues, the Delegate ended by expressing the hope that at the eleventh hour the French Government would decide to make use of this opportunity, which was still open to them.

7. The GERMAN Delegate said that he had noted the French statement with the greatest interest, although at the present stage he could only submit preliminary comments. The French position was now perfectly clear and there would seem to be no point in dwelling on the technical details of the matter. The important point was to know whether the cables involved were or were not covered by Item 1526. The French Government maintained that they were not; for their part the German Delegation emphasised that Item 1526 concerned communication cables having certain characteristics to which the cables ordered by the U.S.S.R. corresponded. The Delegate noted with satisfaction that the French Government had undertaken not to authorise fresh exports of those cables unless there was a unanimous decision by the Committee excluding them from embargo. The German Delegation were unable to take up a position at the present meeting and must therefore reserve their Government's position as to the conclusions to be drawn from the French decision. The Delegate believed nevertheless that in any event his Government would take no decision without informing the Committee previously. Referring to the last sentence of his French colleague's statement, the Delegate asked whether the French Government's decision not to authorise fresh exports would remain valid should other Governments having been approached by the Russians be obliged, in the interests of restoring equality of treatment between participating countries and of protecting the interests of their national industries, to grant licences up to a maximum quantity of 450 Km per country.

8. The FRENCH Delegate was unable to reply to this question officially, but undertook to submit it to the French Government and to inform the Committee of the reply received.

9. The UNITED KINGDOM Delegate stated that his authorities would take note with interest of the technical conclusions reached by the United States and French experts. Confirming again his Government's view that the cable involved was indeed covered by Item 1526, the Delegate pointed out that the embargo status of this type of cable had never been subordinated to the nature of the equipment used in combination with it, but to its intrinsic transmission possibilities.

10. The ITALIAN Delegate stated that, following the French Delegate's explanation concerning his Government's decision, it appeared to be important

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to recall the principles on which the work of the Committee had been based for many years and to stress that, if economic interests unilaterally interpreted led participating Governments to adopt diverging positions in the fields dealt with by the Coordinating Committee, there would soon be no justification for the latter's existence. The Delegate reminded the Committee of the historic and diplomatic origins of the plan to construct the Trans-Siberian and stated that this was a case where a railway had been created to be the instrument of a very specific military policy by the Russian Government. Today, when the political picture had been profoundly changed, this railway preserved its full military and strategic importance. The Delegate pointed out that following the long and difficult discussions which had been held in 1958 during the review of the International Lists, Member Governments had agreed unanimously to maintain under embargo all cables (including submarine cables) having certain technical characteristics. As this agreement was in existence it was essential to respect it loyally and strictly in the interests of the strategic defence of the Free World itself. The Delegate stated in conclusion that he would inform his authorities of the present discussions and would reserve the right to submit later any observations they might wish to make. Referring to the German Delegate's statement, he would however stipulate immediately that, if other Governments decided to draw certain conclusions from the French decision, the Italian Government might be led to act in the same way in order to re-establish the principle of equality of treatment between Member Countries and to protect the interests of their national industry.

11. The JAPANESE Delegate stated that he would forward to his Government the very important statements made at the present meeting. Referring to the last part of the French statement, the Delegate said that he could not commit his Government on this point.
12. The CANADIAN Delegate stated that his Delegation had hoped until that day that the French Government would have considered themselves bound by the opinion expressed by the majority of the Committee; he had no doubt that his Government would be acutely disappointed by the French statement.
13. The TURKISH Delegate stated that he still preserved the hope that the French Government might still reconsider their position on this matter.
14. The DANISH Delegate stated that, as he had announced, his Government's civil and military experts had carried out a thorough study of this question, at the close of which they had reached the unanimous conclusion that the cable involved was covered by Item 1526.
15. The NETHERLANDS Delegate stated that his Government's position was very close to that of the United Kingdom on the question as a whole. The Delegate made an urgent appeal to all Delegations who might regard as a precedent the highly regrettable decision taken by the French Government. He emphasised that such an attitude would imperil the future of the Committee itself and concluded by expressing the hope that, pending amendment of the definitions involved, the French Government would suspend export of the cables in order to avoid extremely serious consequences.
16. The FRENCH Delegate stated that he would not fail to transmit to his authorities the comments made by the various Delegations, but stressed that the position adopted by his Government regarding the order now in course of manufacture, for which the export licence had already been granted, should be considered final.
17. There followed a technical exchange of views concerning the reports of the United States and French experts, the texts of which are attached as annexes to the present document. Having noted that these reports constituted a summing up of the technical aspect of the matter, Delegations expressed the wish to be enabled to forward them to their authorities.
18. The CHAIRMAN concluded the discussion by noting that the ulterior developments of this matter would henceforth be in the hands of the Govern-

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ments concerned; he expressed the hope that they would give proof of their appreciation of their responsibilities. As to the amendment of Items 1526 and 4481, the Chairman proposed that at its next meeting the Committee should decide as to the usefulness and the eventual date of a fresh discussion on the subject.

19. On the 11th May the COMMITTEE agreed that the question of the amendment of Items 1526 and 4481 would only be taken up if a Delegation put forward a new concrete proposal.

20. On the 14th May, as the German Delegation pressed for a formal reply to the question they had asked the French Delegation on the 6th May (See paragraph 7 above) the French Delegate stated, according to instructions from his Government, that in the event that, in spite of the formal position they had taken in considering cables as falling under Item 1526 and thus being subject to embargo, certain Member Governments authorised exports of this product to Sino-Soviet Bloc countries, the French authorities would be obliged to study the matter afresh.

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